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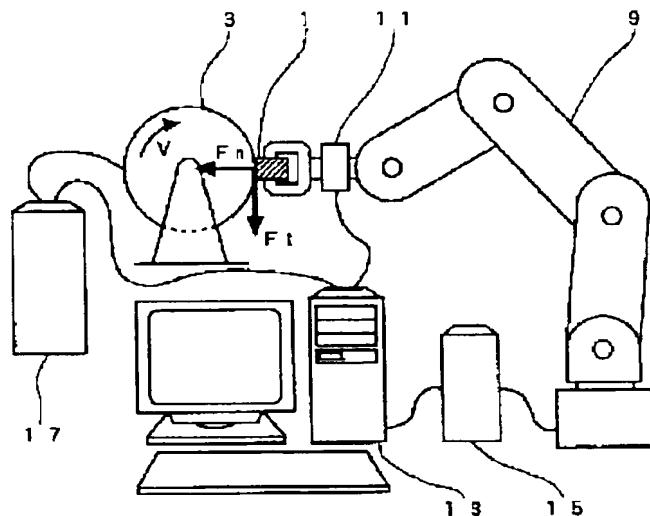
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INVENTOR : MAKINOSHIMA HIROYUKI;

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TITLE : POLISHING DEVICE



ABSTRACT : PROBLEM TO BE SOLVED: To surely generate cut chips, reduce heat, tool wear or the like and to provide a desired polished surface stably for a long time.

SOLUTION: A normal direction pressing force F_n and a tangential direction friction force F_t are detected by a force sensor 11. The normal direction pressing force F_n is controlled in the range of an expression $F_{t0}/\alpha \geq F_n \geq F_{n0}$ when a pre-calculated force F_{n0} for starting the generation of cut chips, a force F_{t0} for suppressing heat generated during polishing or tool wear to a permissible limit and a friction coefficient α are defined. A polishing speed V is controlled based on an expression $V = K_s \cdot G/F_t$ when a polishing amount G per unit time se beforehand so as to obtain a desired polished surface, a ratio polishing resistance K_s per unit chip area and the friction force F_t of a tangential direction are defined.

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